F-BRE Project # 3074

JUNE/JULY MONTHLY PROGRESS REPORT
MONTANA DOT "PERFORMANCE PREDICTION MODELS"

To:	**Jon Watson, MDT**
	Susan Sillick, MDT
Agency:	**Fugro-BRE**
MDT Contract No.:	**HWY-30604-DT**
Performance Period:	**June/July 2002**
Prepared By:	**Brian Killingsworth**
Date Prepared:	**August 15, 2002**

1.0 CURRENT MONTH WORK ACTIVITIES AND ACCOMPLISHMENTS

Task 1 – Literature Review
Complete. A draft memorandum summarizing the models to be considered within this project was submitted to the Department in October 2001. This memorandum will be updated when the calibration and validation of the 2002 Design Guide distress prediction models, expected in November 2002, is made available.

Task 2 – Review of MT DOT Pavement-Related Data
Complete. However, Fugro-BRE will continue to monitor the LTPP database and update any missing data on the test sections with time. The project team anticipates that the MDT LTPP materials testing being conducted by PRI under contract HWY-306477-DT will be completed by the end of September 2002. Once this data has been entered, reviewed, and uploaded to the IMS by the WRCO, the project team will request the information and process it for use in task 7 of this project.

Task 3 – Establish the Experimental Factorials
Complete.

Task 4 – Develop Work Plan for Monitoring and Testing
Complete. The monitoring plan will be revised after the materials sampling and initial analysis of the data are complete under Tasks 6 and 7.

Task 5 – Presentation of Work Plan to MDT
Complete.

Task 6 – Implement Work Plan – Data Collection
On-going activities. The materials testing plan has been updated and we are in the process of testing the materials gathered from the additional 10 field sites. It is expected that all of the testing will be completed by the end of the summer or early fall.

The project team has discussed with MDT finding new pavement sections for use in the experimental plan. These sections are to be constructed with Superpave-designed hot mix and will be sampled by MDT and/or the project team during the time of construction. The purpose of adding these sections will be to incorporate pavements constructed with current MDT mixture design procedures. MDT personnel have also discussed the sampling requirements for each site with Dr. Tam and are working with other members of the project team to obtain some

samples during this construction season. On August 15, 2002, MDT personnel conducted sampling at the Ft. Belknap site. This site has been overlaid with a leveling course and a surface course. The sampling included asphalt binder, aggregate stockpiles, and hot-mix directly in front of the paver.

A field investigation report has been completed by the project team and includes a summary of the distress surveys, field sampling results (cores, bores and other geotechnical information), FWD Deflections (round 1 only), and longitudinal profiles from each of the supplemental sites. The field investigation report will be sent by UPS Next Day delivery.

Fugro-BRE contacted Dr. Vince Janoo and obtained a copy of the seasonal data and draft report entitled "Performance of Montana Highway Pavements During Spring Thaw." This data will be used in analyzing the response and performance data that were monitored and obtained from other test sections.

Task 7 – Data Analyses and Calibration of Performance Prediction Models
The initial steps required to populate the calibration and validation database have begun. The first step taken was to verify which LTPP data were missing since the last time it was checked. No significant changes in the available data were found. However, as noted in the write-up for task 2, the missing LTPP materials data for Montana should be available by the end of the fall.

Also, the status of the additional LTPP sections outside, but surrounding, Montana were verified. Each of the sections is being checked for sufficient data so that only those sections with adequate data are being utilized.

The backcalculation of elastic layer moduli at each of the non-LTPP test sections has begun. To date, two rounds of deflection tests have been gathered at the ten (10) additional test sections. Both rounds of data should be backcalculated by the next reporting period.

Task 8 – Final Report and Presentation of Results
No activity.

2.0 PROBLEMS/RECOMMENDED SOLUTIONS

It has come to our attention that the Ft. Belknap supplemental site has already been overlaid. Since there are a limited number of supplemental sites, it is imperative that MDT attempt to maintain these sites as long as possible so that continued, long-term monitoring is feasible. Since this site is being overlaid with a Superpave surface course, the project team has coordinated with MDT to sample the Superpave mix during construction and we will include this site as a Superpave rehabilitation site. No other problems were encountered during last month and none are anticipated next month.

3.0 NEXT MONTH'S WORK PLAN

The activities planned for next month are discussed below:

- Coordinate with Department personnel on an as-needed basis.
- Continue with testing as per the materials testing plan.
- Continue analysis of all data collected at the LTPP and non-LTPP test sections.

4.0 FINANCIAL STATUS

Following is a summary of the estimated expenses incurred during the months of June/July.

Cost Element	Previous Month's Cumulative Cost, $	Current Monthly Expenditures (Estimated), $	Cumulative Costs (Estimated), $
Direct Labor	19,480	7,625	27,105
Overhead	27,856	10,903	38,759
Consultants/Subcontractors	7,615		7,615
ERES/ARA	-	1,073	1,073
Parsons-Brinkerhoff	-	8,527	8,527
SME	-	446	446
Dr. Matthew Witczak	-	0	0
Dr. Mark Hallenbeck	-	3,130	3,130
Travel	10,802	0	10,802
Testing	541	290	831
Other Direct Costs	403	1,713	2,116
Fee	6670	3,371	10,041
Total Costs	73,367	37,078	110,445

The following table provides a summary of the total expenditures by the Montana and FHWA fiscal years in comparison to the allocated funds for each fiscal year.

Montana DOT Fiscal Year				FHWA Fiscal Year			
Fiscal Year		Allocated Funds Cumulative, $	Expenditures Cumulative, $	Fiscal Year		Allocated Funds Cumulative, $	Expenditures Cumulative, $
6/1-6/30	2001	15,000	*0	6/1-9/30	2001	65,000	31,996
7/1-6/30	2002	218,969	82,420	10/1-9/30	2002	258,969	78,449
7/1-6/30	2003	348,969	28,025	10/1-9/30	2003	358,969	---
7/1-6/30	2004	388,969	---	10/1-9/30	2004	398,969	---
7/1-6/30	2005	428,969	---	10/1-9/30	2005	438,969	---
7/1-6/30	2006	498,969	---	10/1-9/30	2006	498,969	---
	TOTAL	498,969	110,445			498,969	110,445

*June 2001 expenditures were combined with July 2001 expenditures.

Accumulated expenses for the project, estimated through the end of July, are represented graphically in the following chart. The financial chart of actual versus planned expenditures shows that the project team is billing less than expected. This difference is a result of postponing materials sampling to Spring 2002. We expect that the actual versus planned expenditures will become more equal in the coming months after the materials sampling and testing has been completed.

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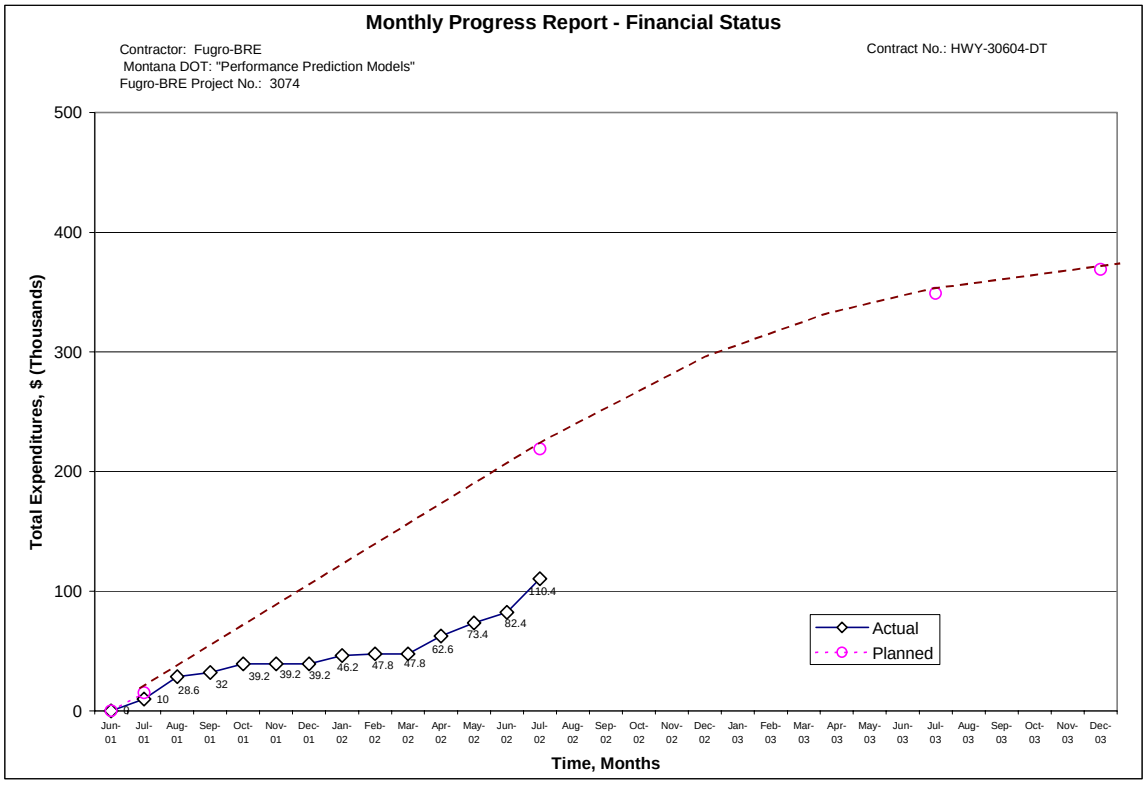
Monthly Progress Report - Financial Status
Contractor: Fugro-BRE
Montana DOT: "Performance Prediction Models"
Fugro-BRE Project No.: 3074
Contract No.: HWY-30604-DT
Total Expenditures, $ (Thousands)
Time, Months
Actual
Planned
0
100
200
300
400
500
0
10
28.6
32
39.2
39.2
39.2
46.2
47.8
47.8
62.6
73.4
82.4
110.4
Jun-01
Jul-01
Aug-01
Sep-01
Oct-01
Nov-01
Dec-01
Jan-02
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